

SECTION 11650 - MISCELLANEOUS LABORATORY EQUIPMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes, but is not limited to, all materials, labor and equipment, complete with all anchors and related accessories, necessary to furnish, deliver and install:
 - 1. DI Water Polishers
 - 2. Glassware Washers (Flask Scrubbers)
 - 3. Water Distillers
- B. Although such work is not specifically shown or specified, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
- C. For general requirements applicable to this and all other Laboratory Equipment Specification Sections including, but not limited to definitions, system description, submittals, quality assurance, mock-up, testing, field measurements, pre-installation conference, delivery, storage and handling, project conditions, and sequencing requirements, refer to Specification Section 11600 - Laboratory Equipment - General Requirements.

PART 2 - PRODUCTS

2.01 GENERAL

- A. For general requirements applicable to this and all other Laboratory Equipment Specification Sections including, but not limited to, manufacturers, materials, components, and finish and performance requirements, refer to Specification Section 11600 - Laboratory Equipment - General Requirements.

2.02 DI WATER POLISHER

- A. Acceptable Manufacturers & Products:
 - 1. Millipore Corp. (Model # Direct-Q Ultrapure Water System)
 - 2. Barnstead/Thermolyne, Dubuque, Iowa
 - 3. Lab Repco, Horsham, PA
- B. Description:
 - 1. The point of use ultra-pure water system shall provide type I, 18 meg-ohm quality water with <10 ppb TOC and <0.001 EU/mL pyrogen levels, at locations indicated on drawings.
 - 2. The unit shall be provided with a 10 L reservoir tank. The 10L reservoir tank shall be automatically refilled when the water level drops below 9.5L.
 - 3. Feed Water: Tap water.
 - 4. The system shall be installed complete with interconnecting plumbing and electrical work per the drawings and specifications.

5. The vendor shall supply all of the major system components and necessary cartridges.
6. The system shall be a virtually silent unit, generating less than 40 decibels at a 1 meter distance from the system.
7. It shall be wall mounted without the addition of any special brackets and it shall come complete with a remote dispenser to allow delivery of water up to 9 feet away from the unit.
8. The unit shall have a microprocessor controlled purity monitor and controls for simple and accurate operation.

2.03 GLASSWARE WASHER (FLASK SCRUBBER)

A. Acceptable Manufacturers & Products:

1. Labconco, Kansas City, MO (Flask Scrubber Model # 44203-30)
2. Scientek, Richmond, B.C., Canada
3. Hotpack, Warminster, PA

B. Description:

1. Under Counter Flask Scrubber Glassware Washer for 115 volt operation with viewing window.
2. The Washer shall be a cabinet-type washer with completely automatic solid-state circuitry that monitors and controls all cycle phases.
3. The enclosed washer shall be mounted under a counter.
4. Washer shall meet the Underwriters Laboratories (UL) Standard 544 as certified by ETL Testing Laboratories, Inc.
5. Chamber load capacity: 22-1/2" W x 21" D x 18" H
6. Exterior dimensions: 24" W x 27" D x 34-1/2" H
7. Heaters: A 750 watt sump heater and 700 watt steam heater to boost water and glassware temperatures during washing and drying shall be provided. Minimum inlet temperature of 120° F (49° C). The sump heater shall elevate water temperature approximately 20° F (11° C).
8. View Window and Light: Clear tempered safety glass window, 6" W x 13" H, shall be located in the door. A 25-Watt interior light shall remain lit while the door latch is engaged.
9. It shall include ultra-pure water final rinse.

C. Construction:

1. Tank, wash arms, tower and side rails shall be constructed of Type 304 stainless steel with mirror finish. Tank shall have two rows of polypropylene rollers. Tower shall telescope and lock in two positions. Fiberglass blanket and aluminum-backed acoustic material shall provide thermal and sound insulation. A draw latch shall energize the electronic controls when locked.

D. Control Panel:

1. Injection molded panel shall have microprocessor that stores five factory preset programs (RINSE ONLY, PLASTIC, GLASS, GLASS PLUS AND SCIENTIFIC) and two user set programs (USER 1 SET and USER 2 SET).

E. Racks and Inserts:

1. Shall be constructed of Type 304 stainless steel.
2. The following Racks, Inserts and Accessories shall be provided:
 - a. Adjustable Height Top Rack
 - b. Bottom Rack
 - c. Utensil Basket

2.04 WATER DISTILLER

A. Acceptable Manufacturers & Products:

1. Barnstead/Thermolyne, Dubuque, Iowa (Model # FI-Streem III 4 Liter Glass Still, Model # A56210-857 with 8 Liter Capacity Storage Reservoir, Model # A1052)
2. Millipore Corp.
3. Lab Repco, Horsham, PA

B. Description:

1. Totally enclosed, 4 Liter Glass Still.
2. The unit shall have a fully automatic microprocessor controls.
3. The system shall be installed complete with interconnecting plumbing and electrical work per the drawings and specifications. The same vendor shall supply all of the major system components and necessary cartridges.
4. Feed Water: Pre--treated feed water
5. The system shall be a virtually silent unit, generating less than 40 decibels at a 1 meter distance from the system.
6. It shall be wall mounted without the addition of any special brackets.
7. Thermistor and heat sensor shall offer double protection against low water conditions.
8. 24-hour automatic operation.
9. Flow switch to allow for automatic operation with other storage bottles.
10. Complete with an 8 liter Storage Reservoir, Model # A1052
 - a. It shall include wall mounting bracket for easy installation.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. For General Installation Requirements applicable to this and all other Laboratory Equipment Specification Sections including, but not limited to, examination, installation, adjusting, cleaning, and protection requirements, refer to Specification Section 11600 - Laboratory Equipment - General Requirements

END OF SECTION 11650